EXHIBIT 5
DATE 1/21/09
HB 7

RUBY RIVER DAM
Fact Sheet

PROJECT DESCRIPTION

- Located on the Ruby River, in Madison County
- 7 miles south of Alder
- Constructed in 1938
- Owned by DNRC & managed by SWPB
- Operated by Ruby Water Users Association since 1938
- Project consists of:
  - Earthen Embankment Dam, 111 feet high, 846 feet long
  - Reinforced concrete chute spillway
  - Gated, reinforced concrete 90" outlet conduit
- Storage at full pool is 37,612 acre-feet
- Two canals deliver water to purchasers: West Bench, 12 miles long, 85cfs capacity; Vigilante, 26 miles long, 115 cfs capacity
- 191 water users have 225 contracts for 38,845 acre/feet of water

PROJECT DEFICIENCIES

- Severe concrete deterioration exists in the spillway floor and walls. Major structural concrete replacement is required to correct the deficiencies.
- Excessive seepage may threaten the structural integrity of the spillway.
- Outlet does not meet reservoir evacuation criteria.
- Sedimentation has reduced reservoir capacity by approximately 2,000 ac-ft.

PROPOSED ACTIONS TO ADDRESS DEFICIENCIES

The reinforced concrete spillway has been in poor shape for many years. An inspection conducted by the Army Corps of Engineers in 1981 found that the dam has inadequate spillway capacity, with the spillway showing serious deterioration. For this reason, the Corps classified the dam as unsafe according to the standards set under the National Dam Inspection Act. The spillway has since deteriorated to the point that replacement of the entire structure is needed.

The proposed rehabilitation calls for the construction of a new spillway with dimensions similar to the existing structure. The new spillway will be designed to meet or exceed current safety standards per the Montana Dam Safety Act. A new outlet terminal structure and operating gate would also be constructed, along with the installation of additional seepage drains. The new outlet would be designed to accommodate future hydropower development, if deemed fiscally viable (pending approval by the Federal Energy Regulatory Commission).

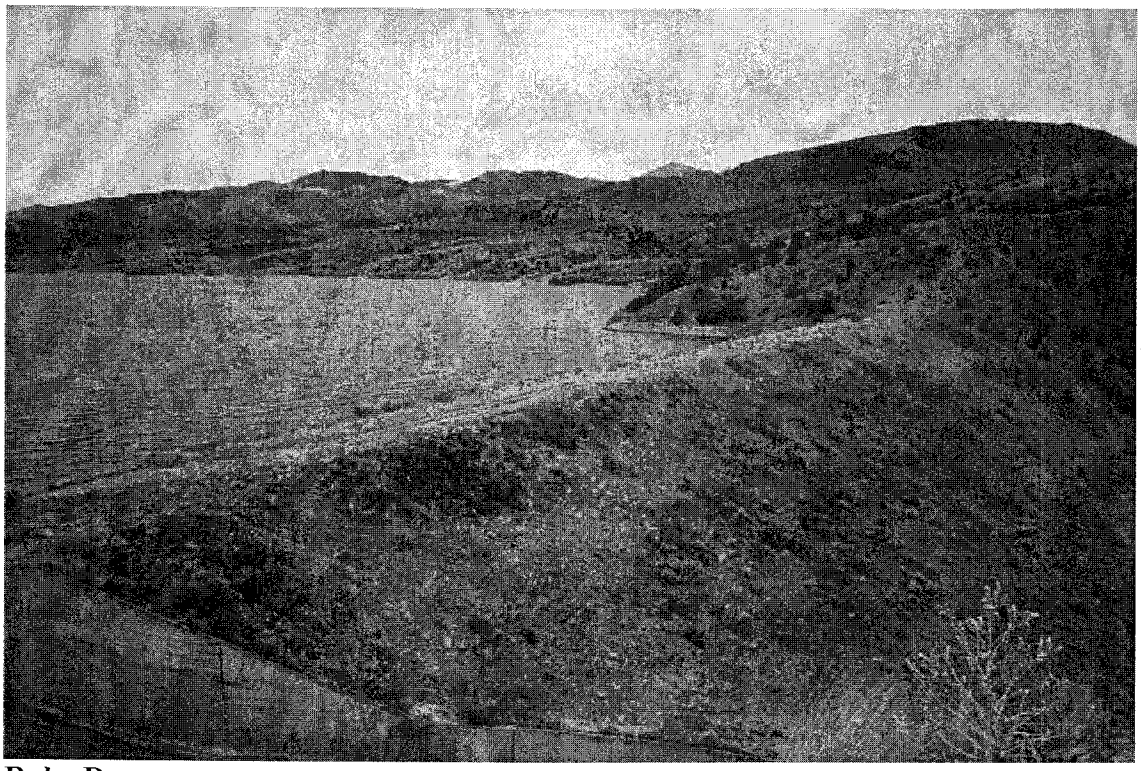
Sedimentation has reduced the storage capacity of the reservoir by approximately 2,000 acre-feet over the past 70 years. In order to enhance and reestablish the original storage capacity, the proposed rehabilitation calls for the new spillway crest to be raised 7.0 feet above the existing flashboards (from elevation 5,393 ft. to elevation 5,400). This will increase the existing capacity of the reservoir from 37,642 acre-feet (existing top of flashboards) to 45,115 acre-feet. The proposed raise (pending new water permit applications) would provide for a 2,600 ac-ft conservation pool, fulfill the State's original water right, and provide an additional 2,665 acre-feet of storage.

The overriding goal of this rehabilitation is to bring the project into compliance with the State Dam Safety Act, thus enhancing public safety and welfare. Being able to meet existing water

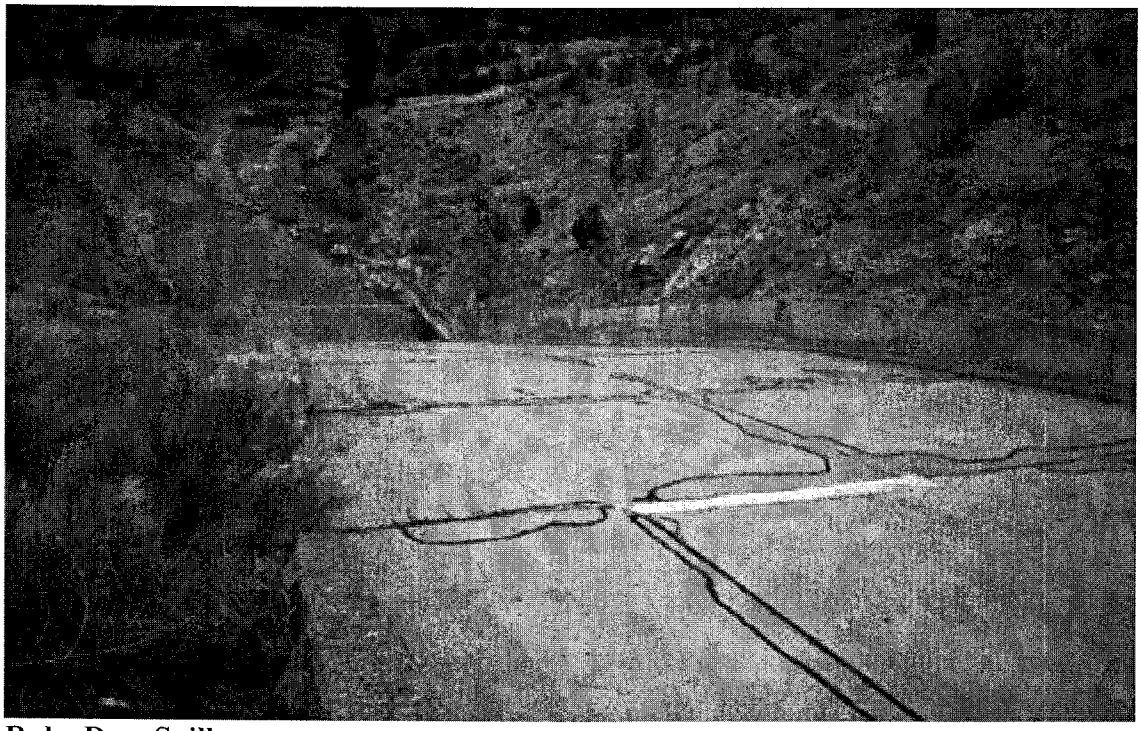
marketing contracts, while enhancing recreational and fisheries are additional and very significant benefits for the local and state economy.

Rehabilitation would bring the structure up to code and extend its useful life for another 50 to 75 years. Construction is scheduled to begin in 2011, pending legislative funding authorization.

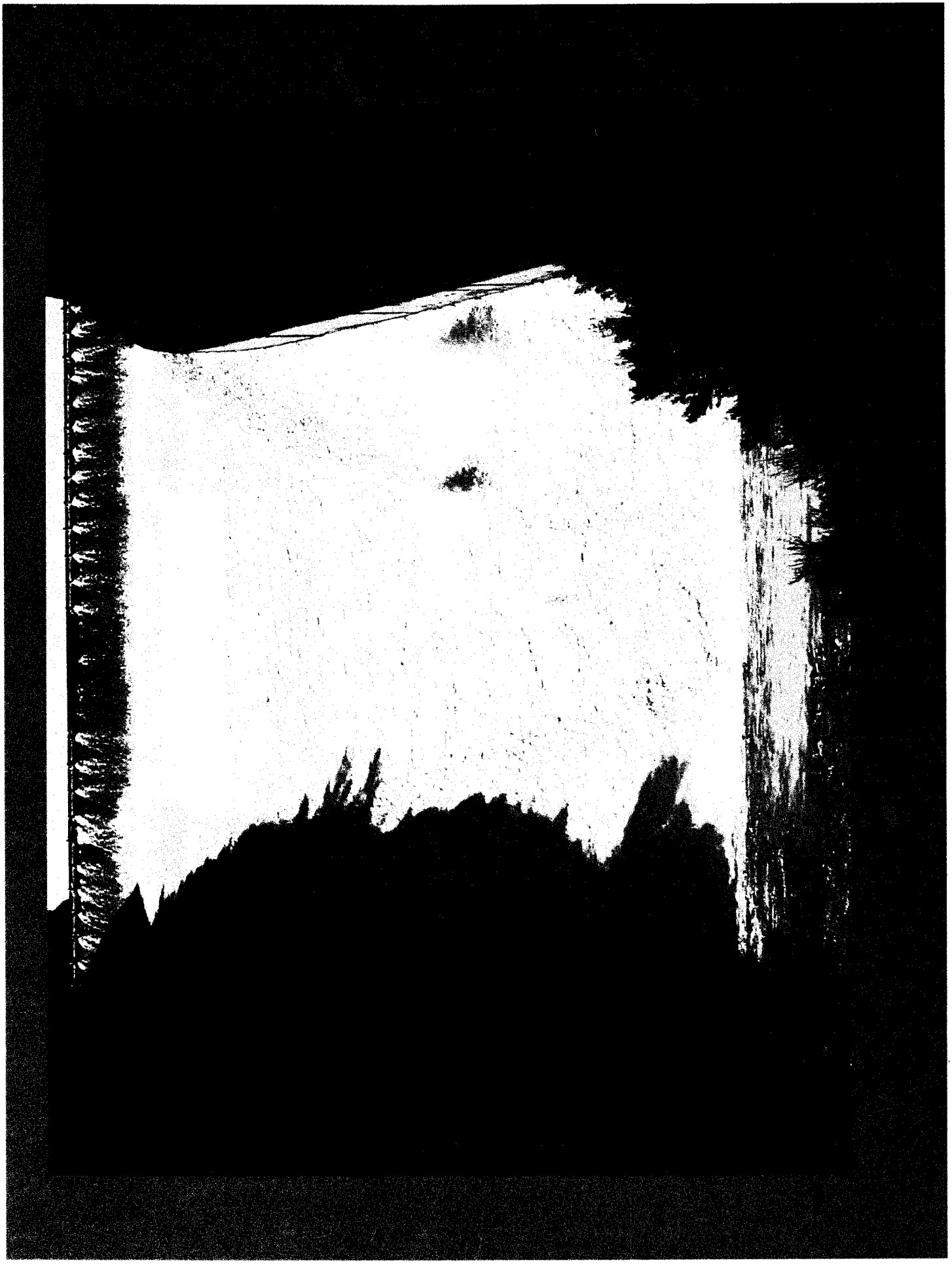
Estimated Project Cost $11,930,000 (2008 Dollars)



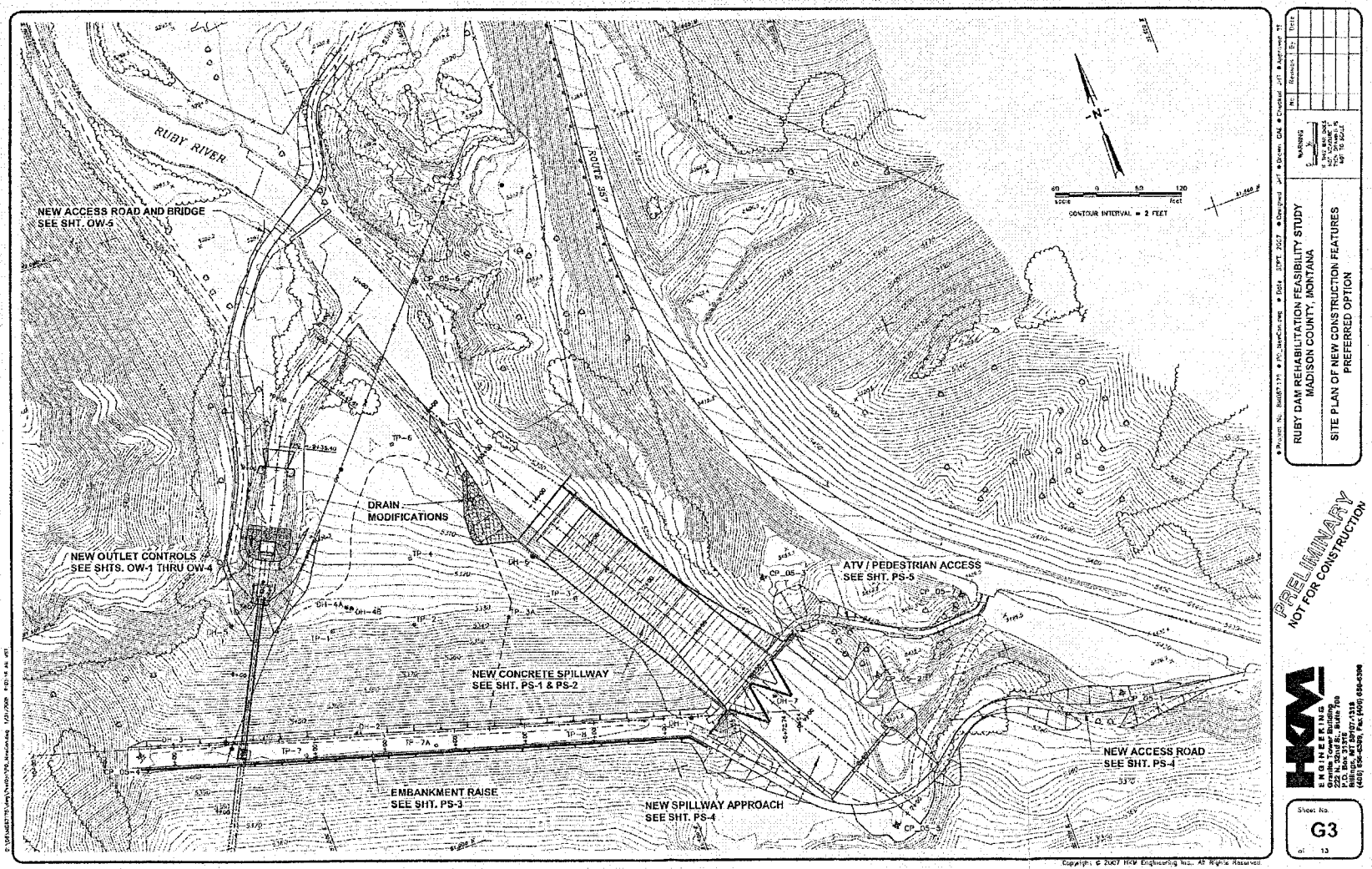
Ruby Dam



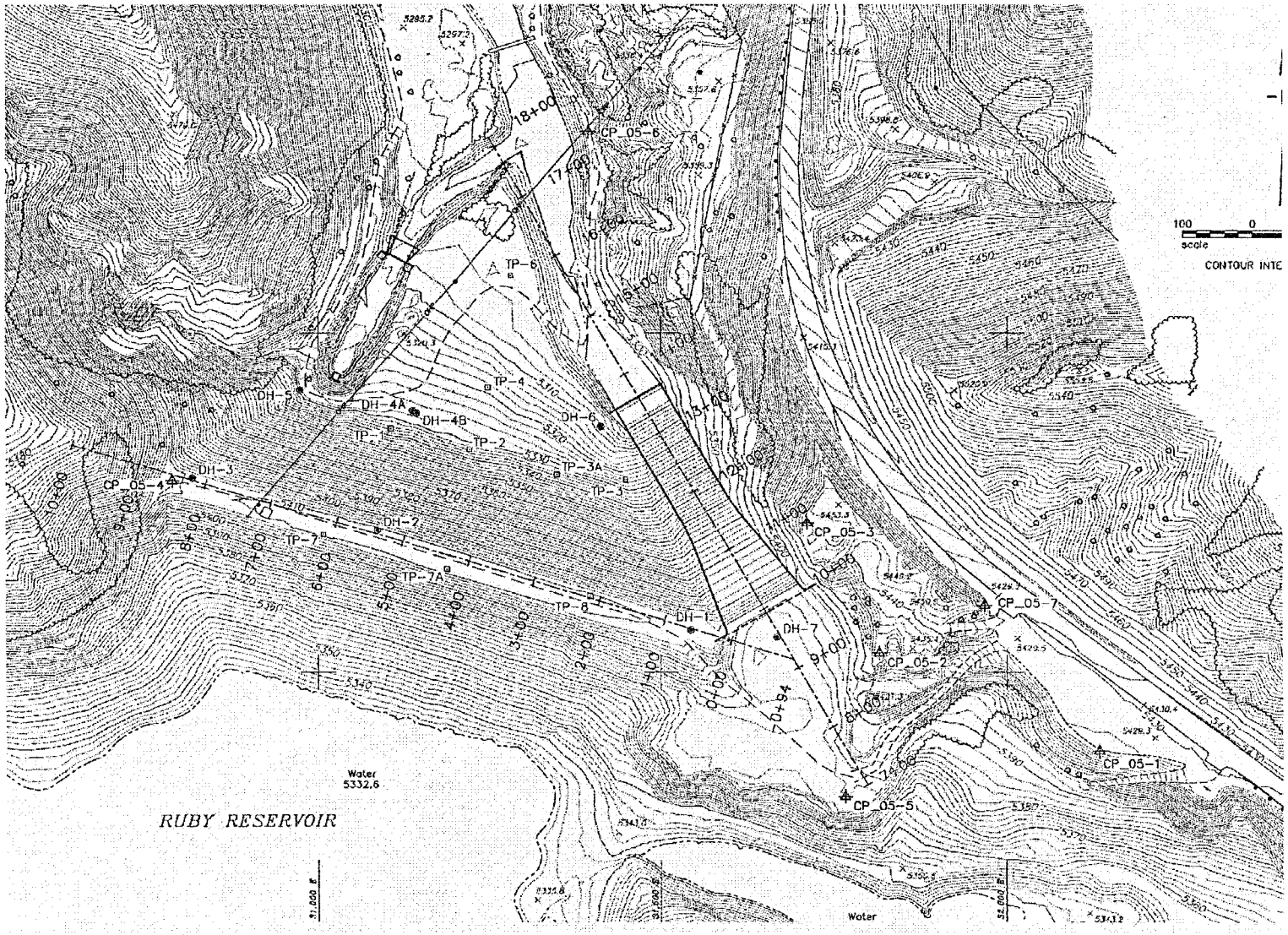
Ruby Dam Spillway



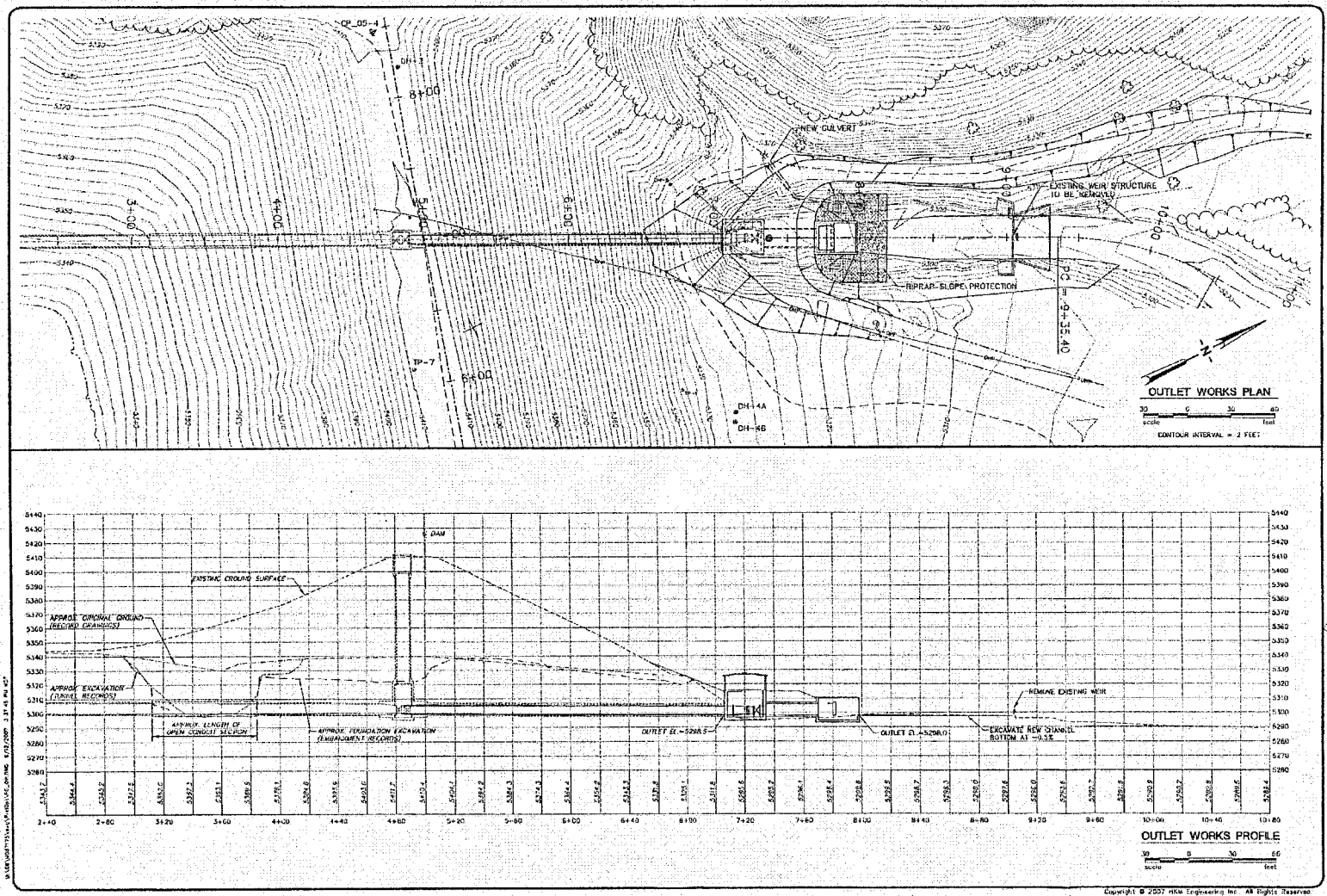
Preferred Rehab Option



RUBY – EXISTING SITE



Preferred Outlet Works



RUBY DAM REHABILITATION FEASIBILITY STUDY
MADISON COUNTY, MONTANA

OUTLET WORKS PLAN AND PROFILE
PREFERRED OPTION

PRELIMINARY
NOT FOR CONSTRUCTION

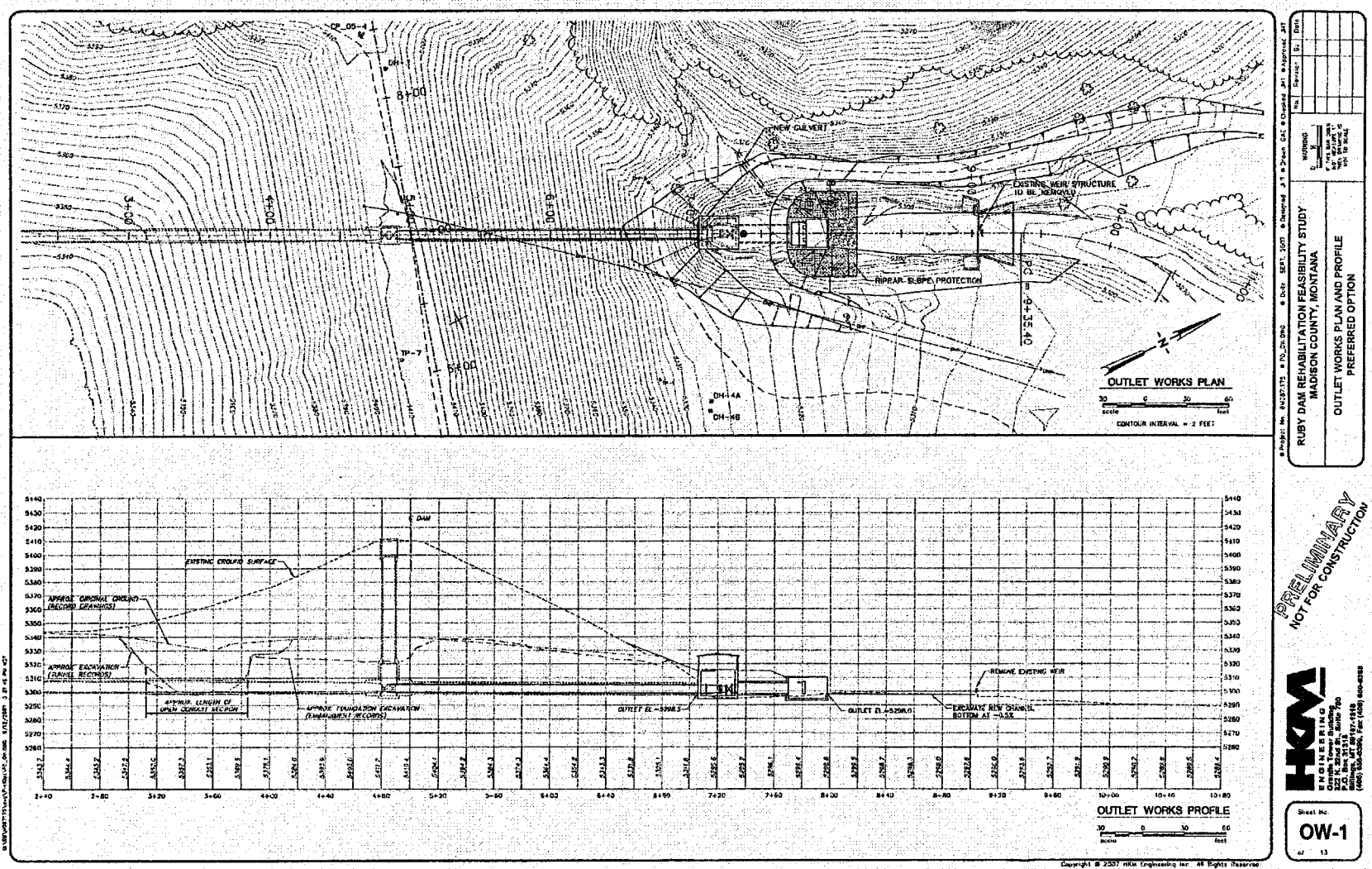
HKM ENGINEERING
Granite Tower Building
222 N. 32nd St., Suite 700
P.O. Box 30197
Billings, MT 59107-1949
(406) 656-8395, Fax (406) 656-8299

Sheet No.
OW-1
of 13

Rehab Costs (2007 dollars)

CONSTRUCTION	
Item	**Cost Est.**
Dam Raise	$ 400,000
Spillway Rehab	4,500,000
Outlet Works	1,300,000
Reservoir Impacts	650,000
Contractor Mobe/Demobe	1,000,000
Misc./Unlisted Items	800,000
TOTAL	**$8,500,000**
FINAL DESIGN, PERMITTING, ADMIN	
ROW/Easements	$1,000,000
Design	850,000
Construction Admin	600,000
Misc.	85,000
Contingencies	850,000
TOTAL	**$3,400,000**
TOTAL COST	**$11,900,000**

Preferred Outlet Works



RUBY DAM REHABILITATION FEASIBILITY STUDY
MADISON COUNTY, MONTANA

OUTLET WORKS PLAN AND PROFILE
PREFERRED OPTION

PRELIMINARY
NOT FOR CONSTRUCTION

HKM ENGINEERING
Sheet No. OW-1
of 13